

# THE INFLUENCE OF MOBILITY CULTURES IN THE TRAVEL BEHAVIOUR OF INTERNATIONAL STUDENTS

THE CASE OF GRONINGEN - NL

**Bachelor Thesis 2019**

University of Groningen | Faculty of Spatial Sciences

Nathana Parise

S3751996

Supervisor: Farzaneh Bahrami



---

## COLOPHON

*Theme:* Transitions in Automobility - Towards a Post-Car Society

*Title:* The influence of mobility cultures in the travel behaviour of international students – The case of Groningen, Netherlands

*Date:* May 28, 2019

*Student:* Nathana Parise  
S3751996  
[n.parise@student.rug.nl](mailto:n.parise@student.rug.nl)

*Bachelor:* Pre-Master  
Spatial Planning and Design  
University of Groningen  
Faculty of Spatial Sciences  
Landleven 1  
9747 AD Groningen

*Supervisor:* dr. F. (Farzaneh) Bahrami  
[f.bahrami@rug.nl](mailto:f.bahrami@rug.nl)

---

## ABSTRACT

The city of Groningen in the Netherlands is known as a cycling city. It is expected that people getting in contact with this type of culture would be influenced by it for different reasons, at least to some degree. Considering how well Groningen is doing in the process of being a livable city and the amount of people that lives here for a relatively short period of time, this scenario presents a great "window of opportunity" (Geels, Kemp and Dudley, 2011) to use the city as an example to show people all the positive aspects of using a more sustainable mode of transport like bicycles. The objective of this study is to understand which features of a different mobility culture have more influence on the travel behavior of international students and in which ways a period abroad in a more sustainable environment, in this case a cycling environment, can affect the students' perception regarding mobility choices when leaving this place and returning to their country of origin or to a different mobility culture. To answer the research questions an online questionnaire and an interview guide were formulated to collect primary data, afterwards using the between method of triangulation to analyse quantitative and qualitative data. From the results it is possible to conclude that, as expected, most of the students faced a shift in their travel behaviour when moving to Groningen. It is also possible to conclude that when arriving in Groningen the fact that people see everyone cycling is already a motivation to start having the same behaviour, but the infrastructure actually weighs more than the mobility culture in the city of Groningen, because besides being a motivation to start cycling it also makes it easier to maintain this habit in the long term. Before coming to Groningen the main obstacle preventing the international students to cycle more were mainly safety concerns and the distance between housing and work/study. This also relates to their intentions to keep cycling after leaving Groningen: for most of them cycling is now a "lifestyle" and they would like to maintain this habit in the future, but it also depends on the urban form and culture of the next city they move to.

## TABLE OF CONTENTS

<b>1. INTRODUCTION</b> .....	5
1.1 Background.....	5
1.2 Research Problem.....	6
1.3 Research Question.....	6
1.4 Hypothesis.....	6
1.5 Structure.....	6
<b>2. THEORETICAL FRAMEWORK</b> .....	7
2.1 Mobility Culture and Travel Behaviour.....	7
2.2 Incentivizing Cycling.....	8
<b>3. CONCEPTUAL MODEL</b> .....	9
<b>4. METHODOLOGY</b> .....	10
4.1 Mixed Methods.....	10
4.2 Data Collection.....	11
<b>5. RESULTS</b> .....	13
5.1 Discussion.....	17
5.2 Ethical Considerations.....	18
<b>6. CONCLUSION</b> .....	19
6.1 Further Research.....	19
<b>7. REFERENCES</b> .....	20
<b>APPENDIX A</b> .....	22
Online Questionnaire.....	22
Interview Guide.....	25
<b>APPENDIX B</b> .....	26
Informed Consent.....	26
<b>APPENDIX C</b> .....	27
Transcript from Interview.....	27
<b>APPENDIX D</b> .....	32
Figures.....	32

## LIST OF FIGURES

<b>Figure 1:</b> Conceptual Model.....	9
<b>Figure 2.</b> Where are you from? Please write down your home country and city.....	13
<b>Figure 3.</b> Which mode of transport did you use most often in your previous city of residence?.....	14
<b>Figure 4.</b> What is the main mode of transport that you use now? Please select no more than three. ....	14
<b>Figure 5.</b> In your opinion which are the main obstacles for people to start cycling?.....	14
<b>Figure 6.</b> In your opinion which are the main motivations for people to start cycling?.....	14
<b>Figure 7.</b> In your opinion does the University facilities incentive the students to use more bicycles?.....	15
<b>Figure 8.</b> In your opinion does the mobility culture of the city of Groningen incentive the students to use more bicycles?.....	15
<b>Figure 9.</b> When are you going to return to your home country?.....	15
<b>Figure 10.</b> Do you think your travel behavior has changed since you moved to Groningen?.....	16
<b>Figure 11.</b> Do you intend to maintain these (new) habits when you return to your home country?.....	16
<b>Figure 12.</b> Qualitative Table – Information about the interviewees. ....	16
<b>Figure 13.</b> What is your gender?.....	33
<b>Figure 14.</b> What is your age?.....	33
<b>Figure 15.</b> For how long have you been studying in Groningen?.....	33
<b>Figure 16.</b> When are you going to return to your home country?.....	33
<b>Figure 17.</b> Why did you choose this specific mode of transport there?.....	34
<b>Figure 18.</b> Which were your motivations to start using this specific mode here?.....	34

---

# 1. INTRODUCTION

## 1.1 BACKGROUND

The city of Groningen in the Netherlands is known as a cycling city (although the meaning of this definition differs according to different authors). It is expected that people getting in contact with this type of culture would be influenced by it for different reasons, at least to some degree.

According to a survey conducted by OIS Groningen (2018), the city is one of the Dutch cities with less private car owners - less than 0,5 cars per household - while having an average of 3,1 bicycles per household. This survey also concluded that "*nowhere in the world do as many people cycle as in Groningen*".

When searching for ways to promote cycling the general campaigns are mainly related to health and environmental issues and comparisons with motorized transport, but it is also important to develop a nice image of cycling, promoting the idea with the aim of making non-cyclists seeing this not just as something that other people do. For this objective to be reached a cultural change must come into place (Gatersleben and Appleton, 2007). And a good way to start this change is with children and young people, such as international students, as a way improve the confidence of new generations to be more cycle active.

But this change also needs to happen on the other way around, teaching drivers how to live together and share the space with non-motorized users of the public space. It is important for the new cyclists to feel they are being seen and respected by the bigger machines around them such as private cars and public transport in general. As past studies reveals, the lack of safety, or in some cases just the thought / feeling of danger, is the main barrier when it comes to potential cyclists, while better interactions among all the different users of the streets have a positive impact (Manaugh, Geneviève and El-Geneidy, 2017).

Considering how well Groningen is doing in the process of being a livable city and the amount of people that lives here for a relatively short period of time, this scenario presents a great "window of opportunity" (Geels, Kemp and Dudley, 2011) to use the city as an example to show people all the positive aspects of using a more sustainable mode of transport like bicycles, and therefore influence the travel behavior of these residents, mainly international students, to become aware of environmental friendly choices and its positive effects. Then when these people leave they may continue to use a bicycle instead of the private car, at least for short trips, and the results achieved will improve not only their lives but the ones surrounding them.

Studies have been conducted about barriers considering personal fears, cultural differences and the build environment as an obstacle, and about ways to encourage people to shift to a more environmental friendly mode of transport. This specific research contributes to this field, as well as the studies of spatial planning and the sustainable environment, and aims to increase the knowledge on this topic identifying how a cultural experience, such a period studying abroad, could also be used as a tool to make a change in the mobility behavior of the future generations. An exchange study program as Erasmus Mundus, Science without Borders, among others, is something that has been experienced for many students in the last years. This cultural shift can cause an impact not just in their academic knowledge but also towards future mobility choices aspiring a more sustainable world.

## 1.2 RESEARCH PROBLEM

Many students when moving to the Netherlands, especially in the city of Groningen, get really impressed by the number of people using bicycles as the main mode of transport. So, among other reasons, by observing this behavior it becomes a habit also for them. The objective of this study is to understand which features of a different mobility culture have more influence on the travel behavior of international students and in which ways a period abroad in a more sustainable environment, in this case a cycling environment, can affect the students' perception regarding sustainable mobility choices when leaving this environment and returning to their country of origin or to a different mobility culture. This study will be conducted with international students living and / or studying in the Dutch city Groningen, a city well known for its bicycle culture and for being a University city.

## 1.3 RESEARCH QUESTION

The main question for this research is: "In which ways the cycling mobility culture of Groningen can influence the travel behavior of international students after they leave the city?"

With the objective of having a deeper understanding of the main question the following sub-questions have been formulated:

1. What are the main features that influence the travel behavior of international students when shifting to a more sustainable mobility culture?
2. Do international students intend to maintain these (new) habits back in their home country? In which way?
3. What are the main (potential) obstacles and motivations which would encourage them to continue this behavior after leaving Groningen?
4. Cultural behavior has more or less influence than spatial features?

## 1.4 HYPHOTHESIS

The hypothesis is that after living in a more sustainable mobility culture (in this case, a cycling culture), international students would consider to maintain the new travel behavior and therefore be more cycle active after returning to their original country or to a different mobility culture.

The expectation is also to understand what are the main obstacles that prevented international students to cycle before and how the example of Groningen could inspire them to maintain new acquired habits, overcoming those previous barriers.

## 1.5 STRUCTURE

The background of this study was explained in the first part of this paper, together with the research problem and research questions, concluding with is the hypothesis to be tested. In the following chapter the Theoretical framework will be presented, followed by the Conceptual Model on Chapter 3. Chapter 4 explains the methodology used to collect and analyse the data, The results are presented and discussed on Chapter 5, concluding Chapter 6 with a reflection about the relations between the findings and previous studies about the same topic, together with a reflection upon the strengths and weakness of this research, recommendations regarding

further development and suggestions to improve the results with continuing studies. Section 7 comprehends a list compiling the bibliography. The paper ends with the Appendix containing the Questionnaire survey and the Interview Guide (Appendix A), the Informed consents signed by the participants from the face-to-face interviews (Appendix B), the transcripts from the recordings of the interviews (Appendix C) and some figures with the results from the online survey (Appendix D).

---

## 2. THEORETICAL FRAMEWORK

### 2.1 MOBILITY CULTURE AND TRAVEL BEHAVIOUR

Geels, Kemp and Dudley (2001) use a socio-technical perspective to analyze the transitions related to the automobility system in general, and the multi-layer evaluation necessary to face the difficulties that arise when trying to implement a new system not yet well established in a specific population. Mobility cultures are often developed around one main mode of transport, and even though they might be changeable, they are usually long-lasting. The same is true for travel behavior, which after a period of inertia may face a relevant change because of certain life events. One example of these life events is as a period studying abroad, which can contribute to a shift not just in personal choices and ideas but also affecting the travel behaviour.

Collective preferences, therefore, may be developed from individual attitudes creating a social pattern, through the "social network effect" (Klinger and Lanzendorf, 2016). As a result the increase of cyclists can also be related to the act of observing and reproducing mobility patterns already implemented in some places. These new cyclists can afterwards influence more non-cyclists and so on. This process can be observed in Groningen, since as soon as the new international students arrive in the city they confront themselves with a great amount of people cycling: alone, with friends, with furniture, etc. Not everybody will be impressed by that, or willing to reproduce this behaviour, but most of them will, as they get familiar with those specific "social conventions and habits" (Klinger and Lanzendorf, 2016).

Good and integrated infrastructure also helps to attract new cyclist in the cities, but it is not the only measure required. Theories such the Model of Behavior Change (Van Bekkum, Williams and Morris, 2011) proposes changes in attitudes and beliefs according to "perceptions of barriers". These barriers tend to be more difficult to overcome according to age, therefore it is important to present the culture of cycling to young people see it as natural thing. Such obstacles may have an influence on cyclists but also on the other way around, such as with private car users, in this case with the implementation of barriers like taxes and parking restrictions.

Previous studies (Klinger and Lanzendorf, 2016) confirm that new destinations and its mobility culture have indeed a great influence in the travel behavior of new residents. Additionally, in this study the main objective is to find out in which ways this influence can remain when these residents face a more sustainable environment and then return to their original culture.

## 2.2 INCENTIVIZING CYCLING

Dutch, but also Danish and German cities have policies that encourage people to start cycling. Among the most important approaches are the traffic-calming techniques combined with cycle paths separated from busy traffic roads, which provide a feeling of safety, especially for new cyclists. When these facilities are implemented among daily destinations such as work or educational places they promote a more welcome environment especially for people who are not yet used to this mode of transport. If a city only has cycle lanes on parks it will probably be used just for recreational purposes around that area, which is what happens in many American cities (Pucher and Buehler, 2008).

Interreg Europe also came up with an initiative called CYCLEWALK (2017-2021). Seven partners from six European countries (Romania, Italy, Slovenia, Holland, Lithuania and Austria) are part of this project which aims to promote a shift from car usage to cycling and walking mobility patterns (Interreg, 2017). The seven partners will be able to achieve the objective by studying and learning the best practices already implemented, and afterwards developing an action plan through a common methodology that is going to contribute to improve accessibility and to promote a transition to a more sustainable alternative for urban mobility. The Netherlands and Copenhagen are some of the main examples to be followed by them.

Another relevant program is the "Master on bike" project developed in Belgium, where young children are taught how to ride a bicycle before leaving primary school. The training helps to improve their cycling skills not just in a physical way but also with traffic simulations, preparing them for real-life situations (Eltis, 2014). This is a great idea that could be easily reproduced in many different cities around the world to motivate the new generations to start cycling more and sooner. But it could also be implemented among adults or even elderly people, that probably would not be able to learn how to ride a bicycle just by themselves.

To be able to understand what causes a shift in the mobility behavior of international students it is important to analyse what are the main differences between the original and the current environment they are living in, and if the barriers that prevented them to have a different behavior before will continue to be an obstacle when returning to their original country/culture. Furthermore, this study aims to understand which characteristics could also be better used, and perhaps implemented in other university cities that receive a lot of international students every year, but do not yet encourage them to have more sustainable habits regarding their mobility choices.



### 3. CONCEPTUAL MODEL

The following conceptual model aims at understanding the theories and concepts related to the Travel Behaviour of international students and how they influence each other. The result would be either a modal shift or no change in travel behaviour. A visual diagram of the main theories and concepts underpinning this research is represented below:

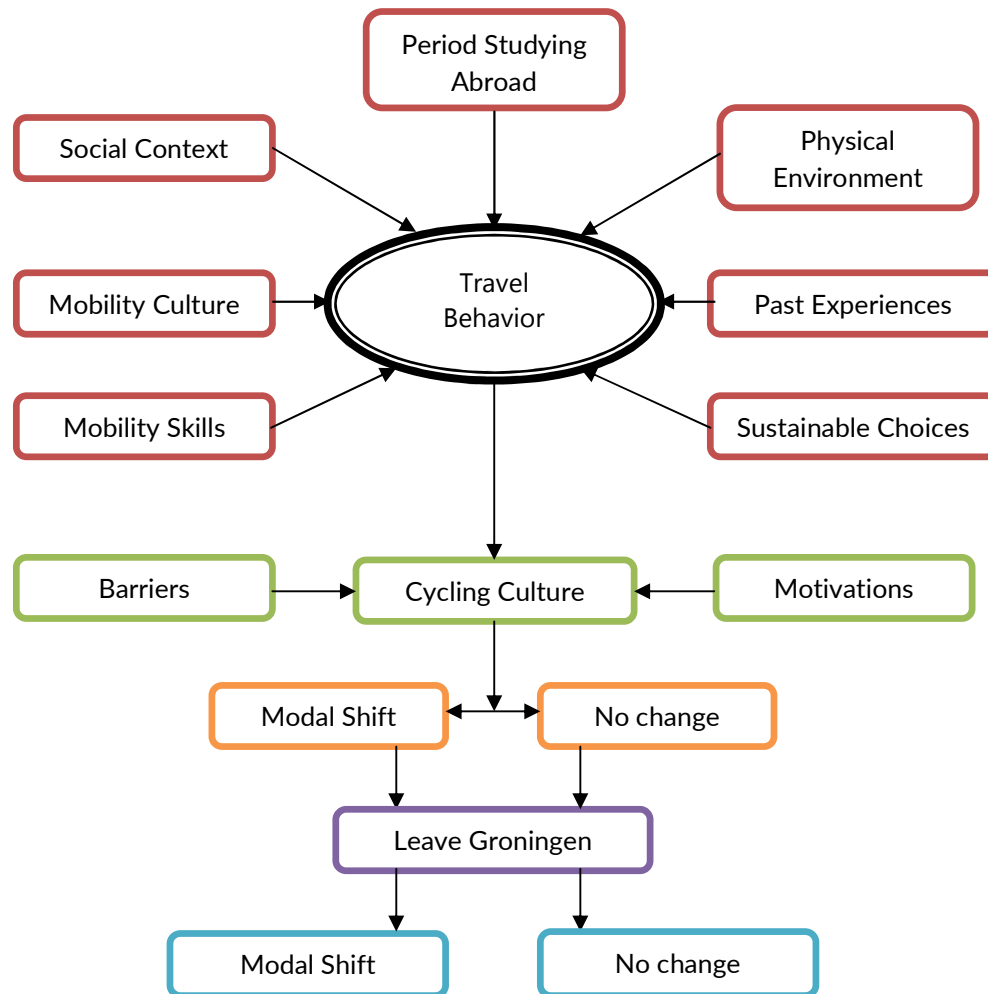


Figure 1: Conceptual Model

---

## 4. METHODOLOGY

This study is classified as evaluation and diagnosis, since the aim is to diagnose the features that have more influence on international students' mobility behavior and to evaluate the students' intentions to keep this behavior when returning to their original culture. To answer the main research question and its sub-questions an online questionnaire and an interview guide were formulated to collect primary data.

Questionnaire surveys were first used in geography with the aim to explore people's travel behavior, consumer choices and perceptions (Clifford, French and Valentine, 2016). It will be conducted among international students living in the city of Groningen in order to understand how a period studying abroad may influence their mobility behavior towards more sustainable choices, like cycling.

Online research methods (ORM) have been categorized as online research practice (ORP) or internet mediated research (IMR) (Clifford, French and Valentine, 2016). IMR includes online questionnaires as the one used in this study. The questionnaire intend to cover all major topics from the theoretical framework, demographic questions, past modal transport used, barriers, motivations and aspirations. It consists of a mix of closed-ended questions (mainly demographic characteristics of the respondents), open-ended questions, half-open-ended questions (where the respondents can choose an answer provided on a list or write a different answer in their own words) and in the end an invitation to a personal interview. Also according to Clifford, French and Valentine (2016), triangulation of face-to-face and online methods might be "*the most fruitful approach for geography researchers*". Therefore, together with the online survey, face-to-face interviews were conducted with the objective to gather a deeper knowledge on the subject.

Considering the analyzed population (international students) it is possible to predict that most of them would choose to use the bicycle as the main mode of transport in Groningen. Therefore the main objective here is to compare the student's behavior in their home country before and after this period living in Groningen, with the aim to understand if indeed they had some kind of barrier that prevented them to cycle before and if this period in a "cycling city" helped them to overcome these obstacles and transform them into opportunities and motivations to continue using the bicycle when they return to their home country. Another important issue expected to be answered by the results of this research is if in this case the mobility culture (and the fact the most people cycle here) has more or less influence than the physical environment (such as cycle paths, flat terrain, general infrastructure).

Both the online questionnaire and the interview guide can be found on Appendix A. Appendix B contains the Informed consents from the face-to-face interviews and Appendix C one transcript from the recordings made in the interviews.

### 4.1 MIXED METHODS

The collected data was analyzed through Methodological Triangulation. Methodological Triangulation refers to the use of two or more different methods of data collection within one single study. This triangulation can be a Within Method or a Across (or Between) Method triangulation.

Within Method is mostly used with one research method, for instance, a survey, and within this survey the researcher uses different strategies to analyze the data. This method helps to check the reliability of the data, using only one method.

The Between Method brings together data collected through more than one method to observe if there is a convergence in the findings. This sort of triangulation allows one type of data to provide richness and detail about another one, given strength to the argument and providing a different perspective of the same phenomenon (Duffy, 1987). Therefore, this holistic method of triangulation goes beyond the confirmation and convergence of the findings, it also can suggest conclusions that other methods alone would not be able to.

Among the benefits of triangulation is the contribution of qualitative methods to quantitative methods (and vice versa). For quantitative methods, the use of interviews can provide a more in-depth understanding of results, especially when time and financial issues are obstacles to a more extensive and representative study.

For this research the Between Method of triangulation will be used to analyze quantitative and qualitative data. Quantitative data will be collected through an online survey and interviews will be conducted to collect the qualitative results. Afterwards, the first step will be to analyze each type of data separately, according to the most pertinent option for each one.

It is possible to merge the results of quantitative and qualitative data via statistical or conceptual approach. For this study the conceptual approach was used. It represents a search for logical patterns of relationship and meanings among the significant variables, resulting in conceptual validation (Duffy, 1987).

## 4.2 DATA COLLECTION

The University of Groningen has 7.000 international students from more than 100 nationalities, out of a total of 31.000 students (RUG, 2018). And the Hanze University counts with 2.400 international students out of 28.400 (Hanze UAS, 2018). For the analysis there was no differentiation between the international students from the two Universities.

Even though the number of international students is relatively high, considering the feasibility of this paper, the time and resources available, it was expected to collect around 30-50 answers from the questionnaires and 3-5 interviews. The data collection process had a duration of five weeks, from April 5 until May 10 (2019), and a total of 72 answers were received from the online questionnaire and 4 interviews were conducted.

The online questionnaire was distributed among online communities focused on the analyzed population - international students in Groningen - and social media, mainly Facebook. In total the survey was posted on seven Facebook groups and also distributed among international students who shared with their friends and the friends of their friends. Therefore, the sampling strategy used can be described as a cluster - and purposive - sample, together with the snowball effect.

The questionnaire was formulated in order to understand the travel behavior of international students in Groningen, considering their past and present experiences and how these experiences may affect their future mobility choices. For some of the questions no more than three answers were possible. This happens because sometimes many or all the alternatives might fit the respondent's opinion, but the objective here is to find out which of the alternatives score more, to understand which features have more influence and therefore can be best applied in the future to motivate more cyclists, in Groningen and beyond.

The questions were divided in two categories (Introductory and Key questions) subdivided into four blocks:

**Introductory Questions:**

1. Personal information – mainly demographic information about the respondents. Considering that the analyzed group consists of international students it was expected that the information gathered in this first block would not be so different among the respondents. The most unique feature to be found here is the place of origin of the respondents.

**Key Questions:**

2. Previous mobility experiences – this set of questions aims to understand how was the travel behavior of the students in their previous cities of residence in their home country. Which were the main modes of transport they used and why do they choose them. It is expected that most of them did not use a bicycle before, but the main question here is Why? Which were the main barriers that prevented them to cycle?
3. Current mobility experiences – these questions are about the travel behavior that the students developed in Groningen. Considering the group which is being analyzed (international students), it is expected that most of the respondents currently use a bicycle - sometimes combined with other modes of transport. Although it may seem that the answers will be quite obvious, this block is important to be able to confirm if indeed the students are using a bicycle here and if so which were the features that made them choose this alternative now. If they have overcome their previous barriers to start cycling, which were the main features that made this change possible now?
4. Future mobility experiences – in this last part the aim is to see (if indeed these students are using a bicycle now) if they intend to maintain this habit back in their home country or in their next place of residence. Mainly to see if now they have more motivations to do it and if the previous fears and obstacles that prevented them to cycle still exist or if they were able to overcome them. Some of the respondents may not even think about it yet, so this research also intend to plant this "seed" in their minds.

Due to the impersonal nature of online questionnaires it is considered a valid method for collecting data (Evans & Marthur, 2005). Nonetheless, it is also important to consider that not all students participate on this sort of communities and therefore would not be able to participate on the survey. This is another reason why interviews were conducted as well.

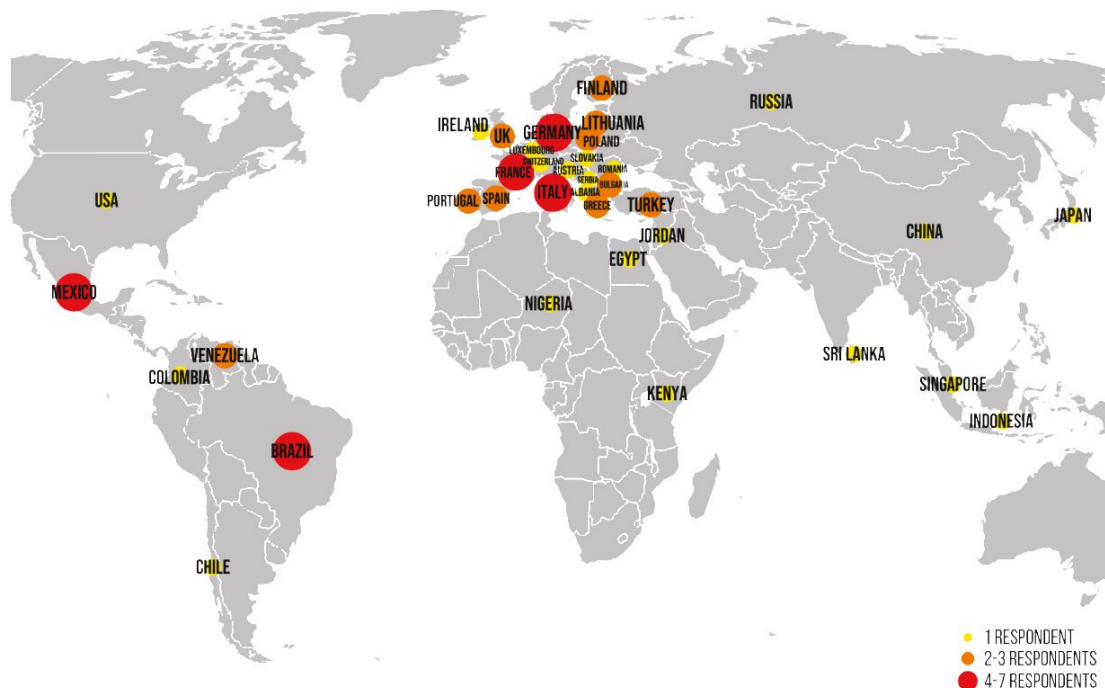
The last question of the online survey asked the participants if they would be willing to participate in a face-to-face interview, or if they knew someone who would, and if so they could write their emails for further contact. From the 72 answers, 17 people wrote their emails. 8 of them were contacted, but none of them answered. So to gather the four participants for the interviews the researcher contacted them through her network from the Universities and again it created a snowball effect.

The interview Guide has the same structure as the online questionnaire (introductory and key questions, the second part regarding previous, current and intended mobility choices). However, the questions for the interviews are all open-ended questions, with the aim to obtain more insights about the perceptions and the reasons of the participants.

## 5. RESULTS

The quantitative results from the online questionnaire were analysed as descriptive statistics and hereby the most relevant findings are presented. According to the main research question and its sub-questions, qualitative data was considered the best approach to be able to answer them, therefore the focus of the questionnaire was not to run statistical tests to test the hypothesis, but instead to gather a broader idea about the topic and provide more representativeness for the project, considering the studied population. With the results from the survey it was possible to understand what should be the focus on the interviews, collecting the qualitative data. The interviews were analysed using the software Atlas.ti to improve the coding and memoing process and thus critically reflect upon the results relating and comparing them with the survey results, the studied literature and theoretical framework.

**Figure 2.** *Where are you from? Please write down your home country and city.*

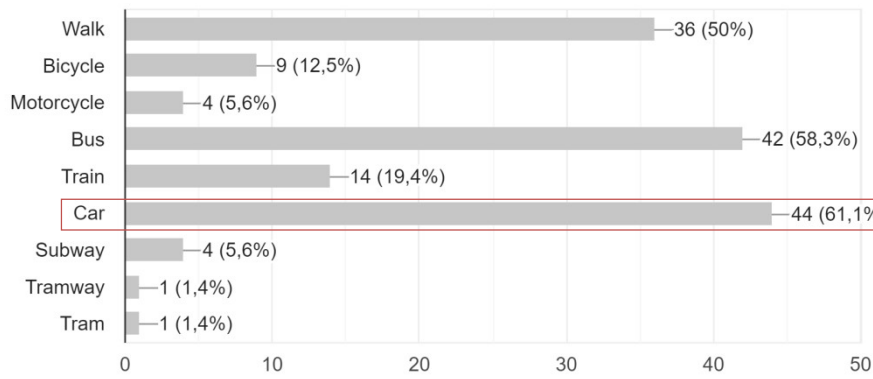


\*Please check Appendix D for a bigger map with the countries where the respondents come from and further image results from the online questionnaire.

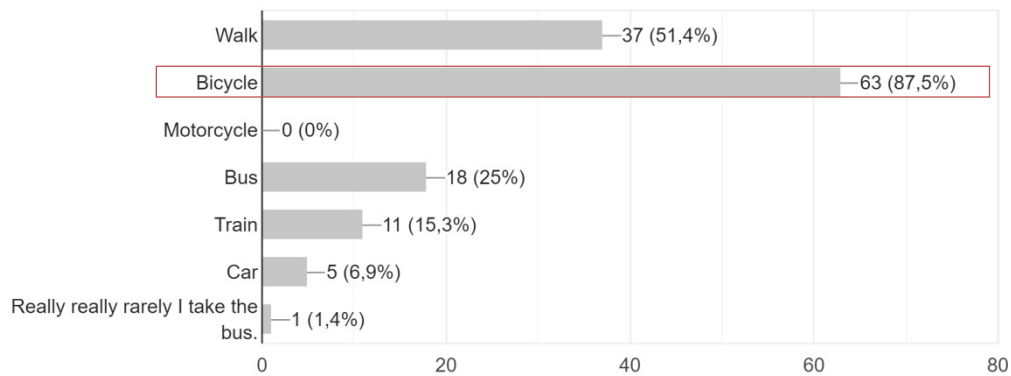
From the quantitative results it is possible to conclude that, as expected, most of the international students have faced a shift in their travel behaviour when moving to Groningen (Fig.10). Before the main mode of transport was the private car, used by 61,1% of the participants in their home country (Fig. 3), while now in Groningen the main mode is the bicycle, with 87,5% (Fig. 4).

According to the respondents, the main obstacle preventing people from start cycling is the lack of infrastructure or maintenance (Fig. 5), while having a good infrastructure available is also considered the main motivation for people to start cycling (Fig. 6).

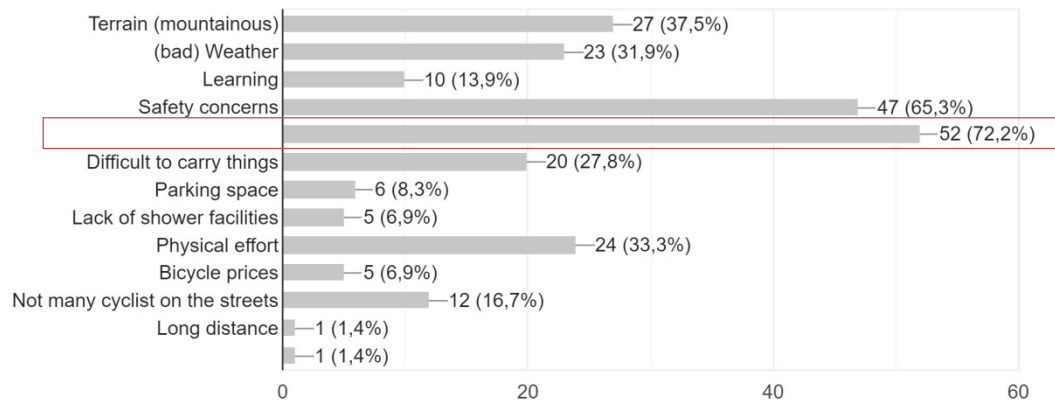
**Figure 3.** Which mode of transport did you use most often in your previous city of residence (in your home country)? Please select no more than three.



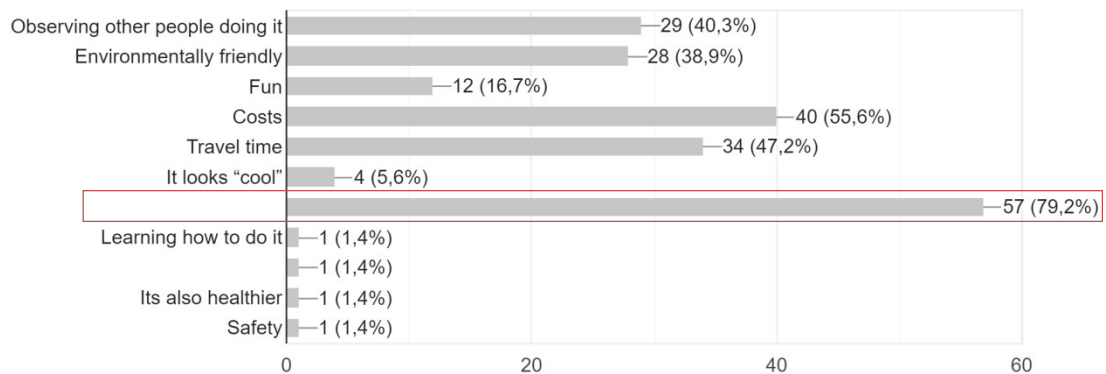
**Figure 4.** What is the main mode of transport that you use now? Please select no more than three.



**Figure 5.** In your opinion which are the main obstacles for people to start cycling? Please select no more than three. (Lack of infrastructure or maintenance)

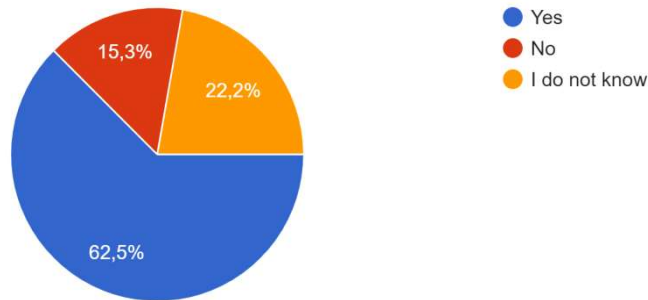


**Figure 6.** In your opinion which are the main motivations for people to start cycling? Please select no more than three. (Available infrastructure – bike lanes, parking)

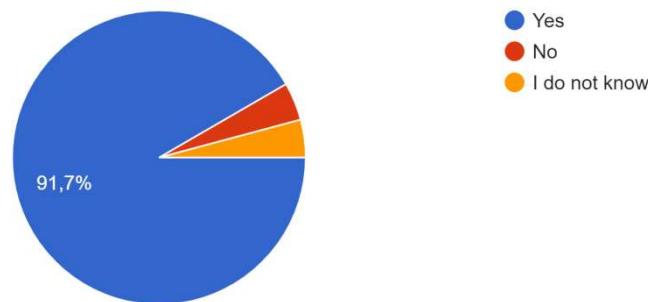


The survey also indicated that for 91,7% (Fig. 8) of the students the mobility culture of Groningen is a motivation for them to cycle more, while only 62,5% say this is true for the University (Fig 7). This is something to reflect upon about what could be done for the Universities to improve it.

**Figure 7.** *In your opinion does the University facilities incentive the students to use more bicycles?*

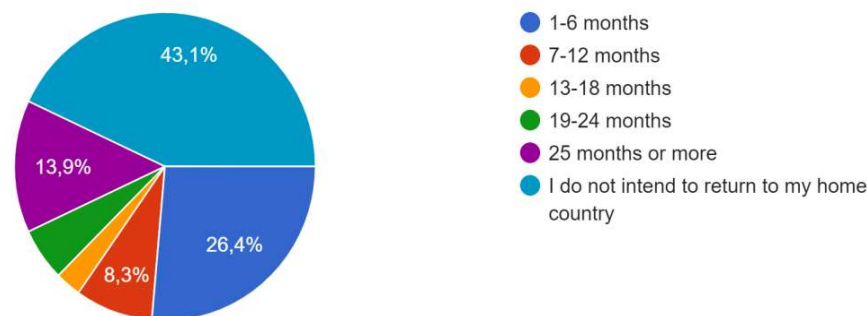


**Figure 8.** *In your opinion does the mobility culture of the city of Groningen incentive the students to use more bicycles?*

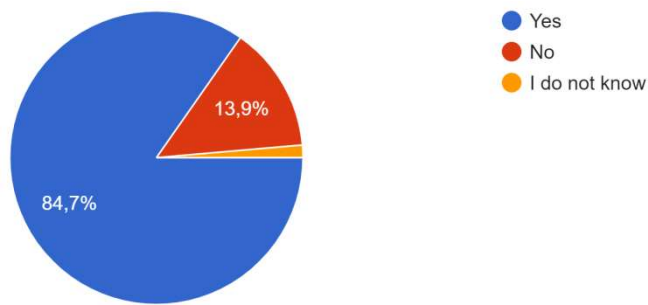


Another relevant result is that most of the students – 43,1% – actually do not intend to return to their home countries (Fig. 9). During the interviews it was possible to understand that this happens because most of the students intend to either do a Master programme in the Netherlands or to find an internship in the country (or in a neighbor country) and then the expectation is to be hired and stay there afterwards.

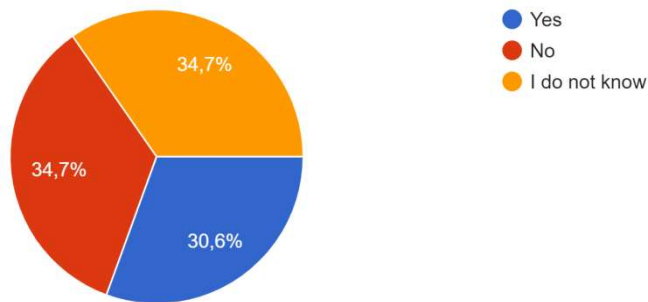
**Figure 9.** *When are you going to return to your home country?*



**Figure 10.** Do you think your travel behavior has changed since you moved to Groningen?



**Figure 11.** Do you intend to maintain these (new) habits when you return to your home country?



The table below shows the main results from the in-depth interviews. Even though only one of the interviewees used to cycle before, this is something that now all of them intend to do when leaving Groningen, after being immerse for some time in this culture.

Interviewee	City / Country	Mode of Transport Home Country	Mode of Transport Groningen	Future Intentions
1	Curitiba / Brazil	Car and bus	Bicycle	"If I move to the city centre maybe I will buy a bicycle, because then it would be easier... If I move to another EU country I will definitely try to keep cycling."
2	Toulouse / France	Bus and subway	Bicycle	"Toulouse is not designed for bikes... I will miss biking... It would be great if it was like here everywhere... Maybe in the long term"
3	Toulouse / France	Subway, car and walk	Bicycle (rarely car)	"I think I will [cycle] because now I know I can use it every day... It depends mostly of the infrastructure and where my job is situated."
4	Hanover / Germany	Tram and bike	Bicycle	"I think if I go back I will also ride a bike... if it is a city really, with hills, then maybe not, but here most of the cities are flat so yeah."

**Figure 12.** Qualitative Table – Information about the interviewees.



## 5.1 DISCUSSION

With the quantitative and qualitative results it is possible to conclude that, as expected, most of the international students have faced a shift in their travel behaviour when moving to Groningen. From the interviews it was also possible to understand that for the participants, when coming to Groningen, at first the fact that they see everyone cycling is already a motivation to start cycling as well, but the infrastructure actually weighs more than the mobility culture in the city, because besides being a motivation to start cycling the general infrastructure (mainly well maintained cycle paths) makes it easier not just to start, but also to maintain this habit afterwards. History, culture and the weather are also important (Pucher and Buehler, 2008), but they do not necessarily determine the amount of cycling. As was mentioned by all the four interviewees, sometimes the weather is not so good in the Netherlands, but the practicality of cycling overcome this obstacle.

Although the participants consider the mobility culture of Groningen an incentive to be more cycle active, they do not agree that the same is true for the University - this is something that was mentioned in the survey and in the interviews. When this was questioned during the interviews it was unanimous that the parking facilities close to the University buildings are efficient. However, sometimes they are not enough. One of the interviewees also suggested planning some fairs in the beginning of each academic year, to sale and exchange bikes, considering that the big majority of the international students buy a bicycle as soon as they arrive in the city "*They do the same for books, why don't they do that for bikes?*". The University, being the main contact of the recently arrived international students, should indeed provide more information for them, and some practical activities like the one suggested would be a good start point.

Before coming to Groningen, the main obstacles preventing the international students to cycle were related to safety, lack of basic cycle infrastructure, and long distances that took too much time for commuting, mainly distances between housing and work/study, especially for those who lived far away from the city center. This is also related to the answers about their intentions to keep cycling after leaving Groningen. For most of them cycling is now a "lifestyle" and they would like to maintain this habit in the future, unless they move to a much bigger city where it would be really difficult to cycle as a result of the travel time, as interviewee n.3 said "*I would never made 40-50 minutes of bicycle each morning and each evening to work.*"

Nonetheless, even the ones that did not cycle before, ever, now are actually considering it. Even if in a lower scale than in Groningen, they at least intend to buy a bicycle and cycle from time to time, which means that the period they spent in the city – ranging from six months to three years – actually did have an impact in their future mobility choices. If they had not done their studies here, it might be that they would never even consider to cycle, or to see a bicycle as a mode of transport, it would be just a leisure activity. But now, quoting interviewee n.3: "*... now I know I can use it [a bicycle] every day, as I'm doing here*". The students also consider continuing cycling because, and quoting interviewee n.4, "*our generation recognize that the environment is important*", and cycling, as well as walking, is better for the environment and for our own health.

The fact that the students say it is cheaper to cycle may seem like they are the ones who cycle more because of their low (or inexistent) income, but this is not completely true, considering that the Netherlands, Denmark and Germany are among the most successful countries promoting cycling in a daily basis, while the numbers for car ownership in these

countries are also among the highest in the world (Pucher and Buehler, 2008). But at the same time, safety and the convenience of cycling in these countries, mainly the Netherlands and Denmark, reduces the need for car ownership and car use, therefore increasing and promoting cycling. To achieve that, having cycle routes with some protection separating the cyclists from main roads is not the only measure necessary, but it is definitely a key factor.

All interviewees believe that they have changed their travel behaviour in Groningen, and three of them also intend to maintain this new habit. The only person who does not agree with this said she would really like to, and will definitely miss cycling, but because of where she lives (in the country side of France), it would probably not be possible, but "*It would be really great if it was like that everywhere*".

Therefore, regarding future policies, it is important for the policy makers to consider the combination of at least basic cycling infrastructure, together with the costs of travel and the time taken for travel (Banister, 2008). It is important that all stakeholders, in this case including the University, understand the reasons people have for choosing some specific modes of transport. Sustainable mobility, such as cycling, is an important subject with great impacts in the future of our cities and our lives, and should therefore be considered as a priority topic.

## 5.2 ETHICAL CONSIDERATIONS

To preserve the identity of the respondents only the necessary personal information was asked, according to Madge (2007), considering the main ethical topics: confidentiality, privacy, debriefing, netiquette and informed consent.

Nevertheless, since the questions are not really invasive and do not address the respondents with sensitive information, the main ethical issues were related to the storage and presentation of data. Therefore the all participants (in the questionnaire and in the interviews) were informed that their participation was voluntary and they could withdrawal at any moment, also that their participation was anonymous and the results would only be used for academic and research purposes.

For the interviews an informed consent was signed by the respondents where she/he accepted the conditions regarding the use of her/his data, also asking for permission to record the interview. They were also informed that the recordings would only be listened by the researcher for the purpose of analysing the data collected and after the thesis is finished it will be deleted. The online questionnaire also included clear instructions to guide the responses and also an explanation about the purpose of this research project.

---

## 6. CONCLUSION

According to Klinger and Lanzendorf (2016), when people face a change in their mobility patterns, the automobile is more dependent on objective socio-economic indicators such as income and infrastructure. As for cycling, it depends more on subjective attributes such as attitudes that are observed and reproduced. This was mentioned during the survey and the interviews. However, according to the participants, the infrastructure and the spatial features of the environment are a bigger motivation for people to start (and continue) cycling, weighting more than the socio-cultural features of the environment.

Safety concerns were also mentioned as one of the main obstacles, especially for the students that were not used to cycle before. This is something that their experience in Groningen was able to help, to overcome these fears, as increased safety is a key for promoting cycling (Pucher and Buehler, 2008). This is something that besides promoting also ended up incentivizing them to maintain the habit of cycling.

The main obstacles for all four interviewees, as for the survey respondents, were related to safety, long distances that took too much time for commuting, and the lack of basic cycle infrastructure. Regarding what they consider a strong motivation for start to cycle is at first the fact that here "everybody is cycling". Parallel is the fact that policies and infrastructure in the Netherlands, but mostly in Groningen, make cycle more practical and convenient than other modes of transport, as here the cyclist is "*at the top of the hierarchy*", as said by interviewee n.4. As a car driver people get stuck in traffic for quite some time, using the public transport it might be necessary to wait and sometimes to deal with delays, besides being more expensive. On the other hand, cycling gives people a sort of independence that no other mode can provide. Furthermore, it is more sustainable, better for the environment and for our own body.

In conclusion, comparing and relating the results from the quantitative and qualitative data, it is possible to understand that the period spent in Groningen has actually a great influence towards the students current and future mobility choices. For the participants, it is also important to consider the mobility options they will face after they leave Groningen, so being able to continue to be a cycle active person depends on other factors rather than just their willing to do it. Therefore, if their next home provides at least a bit o quality regarding mainly safe cycle paths, we can expect that even the before non-cyclists will then cycle more.

### 6.1 FURTHER RESEARCH

Considering the feasibility of the research, the resources and time available, 72 online surveys and 4 face-to-face interviews were collected and analyzed as qualitative data. To provide more depth to the findings of this research, data could be collected for a longer period of time, interviewing more students from different countries. The outcome could then be compared the results with the ones found in this study.

Another suggestion for further research is to study the participants from the interviews after they leave the city of Groningen, to then compare if their perceptions changed and if their currently ideas and motivations to continue cycling are actually putted into practice.

To conclude, this same research could be done in other University cities that receive a lot of international students every year, to infer about the population of international students in general, not only in the city of Groningen. The current sample of this population will be relatively small and further comparisons would increase the accuracy of the findings.

---

## 7. REFERENCES

Ayoub, P.M., Wallace, S. J. and Zepeda-Millán, C. (2014) "Triangulation in Social Movement Research." In *Methodological Practices in Social Movement Research*. by della Porta, D., ed., edited by Donatella della Porta. Oxford: Oxford University Press, 2014. Oxford Scholarship Online

Banister, D. (2008). *The sustainable mobility paradigm*. Transport Policy, Vol. 15, (2), Pp. 73-80.

Clifford, N. J., French, S. and Valentine, G. (eds). (2016). *Key methods in geography*. 2<sup>nd</sup> ed. London: SAGE.

Duffy, M. E. (1987) "Methodological Triangulation: A Vehicle for Merging Quantitative and Qualitative Research Methods," *Image: the Journal of Nursing Scholarship*, 19(3), pp. 130–133

Evans, J. R., & Mathur, A. (2005). *The value of online surveys*. Internet research, 15(2), 195-219.

Gatersleben, B. and Appleton, K. M. (2007). *Contemplating Cycling to Work: Attitudes and Perceptions in Different Stages of Change*. Transportation Research Part A, 41(4), pp. 302–312.

Geels, F. W., Kemp, R. and Dudley, G. (Eds.). (2011). Introduction. In: Geels, F. W., Kemp, R., Dudley, G., and Lyons, G. 2016. *Automobility in transition? A socio-technical analysis of sustainable transport*. New York: Routledge. Ch 1.

Gustafson, P. (2002). *Roots and Routes: Exploring the Relationship between Place Attachment and Mobility*. Journal of Planning Literature, 16(3), pp. 397–477.

Hanze University of Applied Sciences (Hanze UAS). (2018). *Facts and Figures*. [online] Available at: <<https://www.hanze.nl/eng/organisation/hanze-uas/facts-figures>> (Accessed March 2019).

Haustein, S. and Nielsen, T. A. S. (2016). *European Mobility Cultures: A Survey-Based Cluster Analysis Across 28 European Countries*. Journal of Transport Geography, 54, pp. 173–180.

Interreg Europe. (2017). *CYCLEWALK* [online] <<https://www.interregeurope.eu/cyclewalk/>> (Accessed March 2019).

Klinger, T. and Lanzendorf, M. (2016). *Moving between Mobility Cultures: What Affects the Travel Behavior of New Residents? Transportation: Planning - Policy - Research - Practice*, 43(2), pp. 243–271.

Madge, C. (2007). *Developing a Geographers' Agenda for Online Research Ethics*. Progress in Human Geography, 31(5), pp. 654–674.

Manaugh, K., Boisjoly Geneviève and El-Geneidy, A. (2017). *Overcoming Barriers to Cycling: Understanding Frequency of Cycling in a University Setting and the Factors Preventing Commuters from Cycling on a Regular Basis*. Transportation: Planning - Policy - Research - Practice, 44(4), pp. 871–884.

OIS Groningen. 2018. *Statistical overviews*. [online] Available at: <<https://os-groningen.nl/statistische-overzichten/>> (Accessed March 2019).

Popan, C. (2018). *Bicycle utopias: imagining fast and slow cycling futures*. Milton: Routledge (Changing Mobilities Ser). Available at: <<http://public.eblib.com/choice/PublicFullRecord.aspx?p=5613496>> (Accessed: Feb. 2019).

Pucher, J. and Buehler, R. (2008). *Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany*. *Transport Reviews*, 28(4), pp. 495–528.

Sagaris, L. (2015). *Lessons from 40 Years of Planning for Cycle-Inclusion: Reflections from Santiago, Chile*. *Natural Resources Forum*, 39(1), pp. 64–81.

The urban mobility observatory (Eltis). (2014). *Training cycling skills: 'Master on the bike'*. [online] <<http://www.eltis.org/discover/case-studies/training-cycling-skills-master-bike-flanders-belgium>> (Accessed March 2019).

University of Groningen (RUG). (2018). *Key features*. [online] Available at: <<https://www.rug.nl/about-us/where-do-we-stand/facts-and-figures/?lang=en>> (Accessed March 2019).

Van Bekkum J. E., Williams J. M. and Morris P. G. (2011). *Cycle commuting and perceptions of barriers: stages of change, gender and occupation*. *Health Education*, Vol. 111 Issue: 6, pp.476-497

ONLINE QUESTIONNAIRE

*Description:* This research project aims to gather information about differences among mobility cultures and how a period studying abroad in a more sustainable mobility environment can influence the travel behaviour of international students when they return to their home country. This study focuses on international students living in the city of Groningen, know as a “cycling city”. You can fill this questionnaire anonymously and your answers will be used for academic purposes only. It takes around 5 minutes to answer all the questions.

*\*Travel behaviour: how you use transport, your mobility habits.*

Introductory Questions:

**1. Personal information**

- 1.1. What is your gender?  
Female | Male | Prefer not to say
- 1.2. What is your age?  
16-20 | 21-25 | 26-30 | 31-35 | 36 or more
- 1.3. Where are you from? Please write down your home country and city.  
.....
- 1.4. Did you live in an urban or rural area in your home country?  
Rural | Urban | I do not know
- 1.5. What is your current level of education? (what you are studying now)  
Bachelor degree | Pre-Master | Master degree | PhD | Other: .....
- 1.6. What do you study?  
.....
- 1.7. For how long have you been studying in Groningen?  
1-6 months | 7-12 months | 13-18 months | 19-24 months | 25 months or more
- 1.8. When are you going to return to your home country?  
1-6 months | 7-12 months | 13-18 months | 19-24 months | 25 months or more | I do not intend to return to my home country

Key Questions:

**2. Previous mobility experiences**

- 2.1. Which mode of transport did you use most often in your previous city of residence (in your home country)? Please select no more than three.  
Walk | Bicycle | Motorcycle | Bus | Train | Car | Other: .....
- 2.2. Why did you choose this specific mode of transport there? Please select no more than three.  
Environmentally friendly | Safety | Fun | Costs | Travel time | Travel distance | Comfort | It looks “cool” | Available Infrastructure (highways, bike lane, parking...) | Observing other people using it | Other: .....
- 2.3. Did you see a lot of people using bicycles in your home country?  
Yes | No
- 2.4. Did you ride a bicycle in your home country?

- Yes, almost every day | Only for short trips | Only on weekends | No, never
- 2.5. For how many years have you been cycling?  
Less than 1 year | 1-2 years | 3-4 years | 5 years or more | I do not cycle
- 2.6. Approximately how many hours did you cycle per week in your home country?  
I did not cycle | Less than 1 hour | 1-3 hours | 4-6 hours | 7 hours or more
- 2.7. Did you own a bicycle in your home country?  
Yes | No | Someone in my household had a bicycle
- 2.8. Did you own a car in your home country?  
Yes | No | Someone in my household had a car
- 2.9. Have you lived in another city out of your home country? Which one?  
.....
- 2.10. If yes, would you consider it to be a cycling city?  
Yes | No | I do not know
- 2.11. If yes, did you have a different travel behavior when living there?  
Yes | No | I do not know

### 3. Current mobility experiences

- 3.1. What is the main mode of transport that you use now? Please select no more than three.  
Walk | Bicycle | Motorcycle | Bus | Train | Car | Other: .....
- 3.2. Which were your motivations to start using this specific mode here? Please select no more than three.  
I already used this mode in my home country | Environmentally friendly | Safety | Fun | Costs | Travel time | Travel distance | It looks "cool" | Available Infrastructure (highways, bike lane, parking...) | Observing other people using it | Comfort | Other: .....
- 3.3. Which do you think are the main infrastructure necessary to motivate people to start using a bicycle as a mode of transport? Please select no more than three.  
Safe bicycle lanes | Seeing other people using a bike | Parking space | Bicycle repair shops | Shared bicycles apps | Terrain (flat routes) | (good) Weather | Well illuminated paths at night | Public transport costs | Instruct car drivers | Other: .....
- 3.4. Approximately how many hours do you cycle per week now?  
I do not cycle | Less than 1 hour | 1-3 hours | 4-6 hours | 7 hours or more
- 3.5. For which purposes do you cycle? Multiple answers possible.  
To go to the University or other studies | To go shopping | To visit friends or family | To go to work | To exercise or to be healthy | For leisure activities | I do not cycle | Other: .....
- 3.6. In your opinion does the University facilities incentive the students to use more bicycles?  
Yes | No | I do not know
- 3.7. In your opinion does the mobility culture of the city of Groningen incentive the students to use more bicycles?  
Yes | No | I do not know

### 4. Future mobility experiences

- 9.1. Do you think your travel behavior has changed since you moved to Groningen?  
Yes | No | I do not know

- 9.2. Do you intend to maintain these (new) habits when you return to your home country?  
Yes | No | I do not know
- 9.3. If yes, why?  
Environmentally friendly | Fun | Costs | Travel time | It looks "cool" | Available Infrastructure (highways, bike lane, parking...) | To influence other people | Comfort | Other: .....
- 9.4. Do you think that living in Groningen influenced you to consider more sustainable mobility choices?  
Yes | No | I do not know
- 9.5. Why do you think you did not use a bicycle before? Please select no more than three.  
I used to use a bicycle before I moved to Groningen | Terrain (mountainous) | (bad) Weather | Safety concerns | Lack of infrastructure or maintenance | Difficult to carry things | Parking space | Lack of shower facilities | Physical effort | Bicycle prices | Not many cyclist on the streets | Other: .....
- 9.6. In your opinion which are the main barriers for people to start cycling? Please select no more than three.  
Terrain (mountainous) | (bad) Weather | Learning | Safety concerns | Lack of infrastructure or maintenance | Difficult to carry things | Parking space | Lack of shower facilities | Physical effort | Bicycle prices | Not many cyclist on the streets | Other: .....
- 9.7. In your opinion which are the main motivations for people to start cycling? Please select no more than three.  
Observing other people doing it | Environmentally friendly | Fun | Costs | Travel time | It looks "cool" | Available Infrastructure (bike lanes, parking...) | Other: .....
- 9.8. Do you think that a period studying abroad can influence future travel behavior?  
Yes | No | I do not know

**5. Would you like to participate in an interview or do you know someone who would be willing to participate and help us gather more information on this subject? If yes please fill in your email address so we can contact you!**  
.....

Thank you for your time!



## INTERVIEW GUIDE

- Thank you for participate in the research
- Explain project and aim
  - Influence of mobility cultures in the travel behavior of international students living in Groningen
- Give Informed Consent
- Apply questionnaire

### **Introductory Questions:**

1. Where are you from? Your country and city.
2. What is your age?
3. What are you currently studying?
4. For how long have you been studying in Groningen?
5. When are you going to return to your home country?

### **Key Questions:**

6. Which mode(s) of transport did you use most often in your home country?
7. Why did you choose this specific mode(s) of transport?
8. Did you own a bicycle or a car in your home country?
  - Why? (necessity, costs...)
  - Did you use it? For what?
  - Did you feel safe biking there?
  - Did you see a lot of people using bicycles in your home country?
9. What is the main mode(s) of transport that you use now – in Groningen?
  - Why changed? Or why did not change?
10. Which were your motivations to start (or continue) using this specific mode here?
11. (If cycle) For which purposes do you cycle here?
  - Changed? Not possible there?
12. Do you think that the University facilities motivate the students to use more bicycles?
  - How / In which way?
  - What could be done to improve it?
13. Do you think that the mobility culture of the city of Groningen motivates the students to use more bicycles?
  - How / In which way?
14. Do you think you will maintain these (new) habits when you return to your home country?
  - Why? Why not go back? "What if?"
15. In your opinion which are the main barriers for people to start cycling?
16. In your opinion which are the main motivations for people to start cycling?
17. What do you think could be done to motivate the international students to start (or continue) to cycle when they leave Groningen?
18. Do you have any other information that you consider relevant for this study?

- **Thank you for your time!**

INFORMED CONSENT

**Concerns:** Research Project | Influence of mobility cultures in the travel behavior of international students living in Groningen.

Hereby I declare to have been informed clearly about the nature, method and aim of the research project.

I understand that:

- I can stop my cooperation to this research at any moment and without giving a reason.
- Data will be processed anonymously, without being traceable to the person.
- The voice-recording will be destroyed after elaboration of the interview.

I declare that I:

- Join this research project completely voluntary.
- Allow the results of this interview to be used in a report or scientific publication.
- Grant permission to record this interview by way of a voice-record on a mobile phone.

Signature: .....

Name: .....

Date: .....

**Researcher** I gave verbal explanation about the nature, method and aim of the research project. I declare myself as being prepared to answer up-and-coming questions properly.

Signature: .....

Name: .....

Date: .....

TRANSCRIPTIONS FROM THE INTERVIEWS

**Interview 03 – 09/05/2019**

*Male, 22 years old, from France*

A: We are?...

N: Nine! Of May.

A: Okay.

[signed informed consent]

N: And I will sign it too... Okay... Well, the research I am conducting is about the influence of mobility cultures from different places, so in your case, France and Groningen...

A: Uhum.

N: ...and how this can have an influence in the travel behaviour of international students.

A: Okay.

N: Do you have any questions about it, before we start?

A: No, no.

N: Okay, so... I will start with some personal questions, if you don't mind... and if you don't feel comfortable answering any of them it's okay, just let me know.

A: Okay.

N: Hmm, so where are you from?

A: I'm from Toulouse, that's in the south of France.

N: Can you tell me a little bit more about Toulouse? Like, how is the city, what did you like about it? What did you do there?

A: Hmm... It's a more or less one million inhabitants city, in the south, hmm... it's a big... one of the first, or first, student city in France... yeah that's maybe two... yeah it should be between 150 and 200 thousand students.

N: That's a lot...

A: So quite a... Groningen, the proportion of students...

N: Yeah.

A: Hmm... what more? Hmm... that's where I'm born, so love this city because it's hmm... it's very mediterranean, and yeah... south of France mediterranean, spanish culture that are very living in the city, so the... the lifestyle is very, like, the lifestyle I always knew, so it's very normal for me but when I... as I travel a lot with my studies hmm... with my mother, because she is a flight attendant, so I travel a lot and every time this culture, this way of living, hmm.. I miss this way of living so that's very particular...

N: Yeah.

A: And hmm... what's more... do I have... anything else you need?

N: Not really... did you live there your whole life?

A: Yeah.

N: Because you said that you studied...

A: Yeah, since I was born until... 19.

N: Okay... And what is your age?

A: 22.

N: And what are you currently studying here in Groningen?

A: Business and economics, at the University.

N: Is this a bachelor degree?

A: Yeah.

N: For how long have you been studying here?

A: In Groningen since September, until the end of... December or January.

N: Okay so you will be here for...

A: One year and a half.

N: Okay. Hm... so now the questions that are more related to the topic that I am studying...

A: Okay.

N: I have some questions about your previous experiences, regarding your mobility, your current experiences and about what you expect for after...

A: Okay.

N: So which were your main modes of transport in Toulouse? What did you use most often?

A: Hmm... In the last years... or... because we change...

N: Oh you can tell me about before and then... all the history (laugh)

A: Okay before hmm... in Toulouse it was mostly with the subway, because it is quite, very efficient, very clean, very... always very on time, no problems, so yeah it was the subway. Hmm... the walk too, because the city, the very city centre is quite small, so everything is doable by walking, but to go back to my house I used to hmm... to use the subway.

N: Okay... so you lived far from the city center?

A: Far... it was maybe by subway and by walking it was 15 minutes from the city center, 20 max, yeah, 15. Or I just took the bus, the buses were very... it was a straight line so it was very simple. But mostly I had the subway and the bus and... we moved, with my parents when I was 17 to another place out of the city. It was in the countryside, it was by car from the city center, it was... it is 20 minutes, by car... so... I used to take the subway to a station out of the city...

N: Uhum...

A: Just the last station before the countryside, and after I had to take hmm... a minibus... a minibus who came at this terminus each 30 minutes and you have to hurdle (?) it two hours before if you want to go from your home to the subway connection in this area...

N: Okay.

A: So it was a... they call that "on demand transportation", on this direction, it's on demand, and in the other you just have to sit in the minibus, so it was quite convenient, but quite long... to go it was half an hour to... to go from the terminus to my home, 'cause there are many stops... So that's why, and in the last years hmm... I had my driver license, so I drove a lot from my parent's house to the hmm... yeah, to the city centre to find a parking lot, so yeah, that's the... most of the time I use my car right now.

N: Okay. Yeah, that was the second question, if you own a car or a bicycle there...

A: I have both.

N: And did you use both? Because you didn't mention the bike, although you have one...

A: In Groningen? Hmm...

N: No, no, in Toulouse.

A: Oh, no, in Toulouse I just have a car.

N: Oh okay.

A: No bicycle, no nothing else.

N: Okay. Hmm... and here, what is the main mode of transport that you use now?

A: Bicycle.

N: Bicycle. Just the bicycle?

A: Yeah, sure. I... I use my car, but that's maybe once, or twice a month.

N: But is it within the city or to go outside?

A: To go outside, or just to move, because sometimes I have to... hmm... when I have to move my things to buy some table, some things, etc... I had to use my car, but it was in very specific moments when I moved from my previous apartment, but yeah I don't use it... I just use it to go in Germany, or to visit the north of the... the province, to go to see the sea. But I don't use it in my daily life.

N: Okay. And why do you think that you changed for the bicycle here? Which were your main motivations?

A: Hmm... convenience. Because that's all, like... all... everyone does, it's very flat, so it's very easy to use it...

N: In Toulouse it was not that flat?

A: No, no, that's close to the peri... perian mountains, so it's the beginning of them, it's very hilly, etc... so it's not as easier as here to use the bicycle. So, hmm... yeah I use it because it's quite a small city, to go from the... point of interest. So to go to the University, to the home, to... I don't know, the supermarket, that's like max 10 minutes, 15 minutes, so yeah, I just like to use the bicycle because it's more... it's simpler, cheaper, and hmm... yeah very fast.

N: Okay, hmm... and well, about the University, do you think that the University motivates the students to use more bicycles here? The University facilities or some programs or anything?

A: The University by itself?

N: Yeah.

A: No, I don't think so. I mean, that's very normal here to use the bicycle, but I don't see... Oh! my roommate has a University sponsor... I don't know what's the deal but she has a University bike, that red and blue ones, I don't know if you see them...

N: Oh yeah.

A: I don't know how it works but they... she told me that it was, the University will hmm... manage the system, I don't know how it works but as I know personally, except the... you know the bicycle racks...

N: Yeah, for parking...

A: Yeah except... It's quite common here so... I won't say they do "looooot" of efforts, but it's very easy to park in front of the University buildings.

N: Yeah.

A: But it's not the first thing I would say, "yeah they are doing great efforts to motivate the students to use a bike".

N: And do you think that there is something that they could do to improve this?

A: Oh! Hmm... more racks? (laugh) Yeah, because it's overcrowded but...

N: Yeah, sometimes...

A: No, I don't really know what they could do... Hmm... except... yeah maybe they could hmm... organize some fairs to sell and buy bicycles at the beginning of each block... each semester...

N: Yeah.

A: Something really managed by the... or... at least in the cooperation with the University, because when you come in this city you have to a shop, or a group, or something... you are not very confident because sometimes, they are stolen bicycles...

N: Yeah.

A: I've been in shop so I don't think I bought something stolen but... yeah... I'm... as a University for foreigners or even Dutch people, as the University is a primary interlocutor, they should maybe organize such fair, to improve the... exchange of bicycles, etc... it would be great.

N: Yeah, that would be nice.

A: They do the same for books, why don't they do that for bicycles?

N: Yeah, true... And the thing that you mentioned about your colleague, I think that hmm... well they are trying at least for the PhD and for the staff, not for the students... mainly for the ones that live in a ratio... I think it's around 10km... they provide these e-bikes, so people instead of going with the car, since it's a distance... a bigger distance, they go with the bikes.

A: Great.

N: So maybe that's it...

A: Okay, good.

N: But yeah, just a curiosity (laugh). Hmm... and what about the city, do you think that the mobility culture of Groningen motivates the students to be more cycle active?

A: Hmm, one more time, I don't know if that is very... specific to Groningen, but every... I mean, I think public policies are in favour of bicycles, because the cycle lanes are, quite always apart from the main road, which is very different from France...

N: Yeah, from Brazil also (both laugh)

A: Yeah... that's something very interesting and useful and yeah... hmm, very secure, but I don't know if the city by itself as a very strong hmm... policy or something in favour of bicycles, I don't know...

N: And as for the University, do you think that they could do something else to improve this?

A: Hmm...

N: Like the policy makers or ...

A: Add some racks (both laugh) yeah they could, not really, they could add some racks on the streets, because in front of... houses... in front of mine I have five or six racks, that's quite good, but they could add more because there are many hmm... you know... savage bicycles just parked against the wall or on a bush of trees, etc... and that's quite annoying... or just when you drive by car sometimes you have some bicycle on the streets, that's weird... so they could add some racks and maybe... well, I think that's great.

N: Okay... so, well... You indeed changed your travel behaviour...

A: Uhum

N: ...when you came to Groningen.

A: A lot!

N: Hmm... do you think that you will maintain these new habits when you leave the city, or... I don't know... if you intend to return to your home country or where are you going next?

A: Hmm... next, I will have an internship, I don't know where, but probably in the max 3 hours by car from Groningen because I will have some resits.

N: Okay so is it still in the Netherlands?

A: Maybe Netherlands, maybe Germany, maybe Belgium, maybe hmm... at the very far, the... the last option would even be Luxemburg, but hmm... yeah something near the Netherlands.

N: And do you think you will continue cycling there?

A: Hmm... it depends on the situation. I think I will try because I know I can use it every day, as I'm doing here hmm... yeah, I think I will probably... probably have a bicycle, for the first time of my life, well no, not the first time, but... I will have a bicycle to use every day to go to school, etc... But it depends of the city, I was studying in Bourdeau, south of France too, and hmm... the University was about 20-25 minutes from my home, but the infrastructures were very very different from here. It's not very... encouraging you to use that as cycle lanes, so, it depends, I think mostly of the infrastructure and hmm... where my job is situated, where part-time job is situated. I would never made 40-50 minutes of bicycle each morning and each evening to work, and go back.

N: Okay, and if you go back to Toulouse... what if... do you think that you would try to cycle there or just return to the subway?

A: No, because, I'm living... my parents are living 20 minutes away from the city center by car, from the city center that's a very very countryside, there are many hills, etc, so by bicycle I think it's more than one hour, from the city center, I don't know... but I won't.

N: Okay, now, more in general, not just about you... which do you think are the main obstacles to people to start cycling? Not just here, but everywhere...

A: Hmm... not the costs, no, because I think some... quite a lot of bicycles are quite cheap, and you can buy it... so yeah that's not very expensive. Hm... maybe that's a question of, it's a matter of habits hm... someone who have not being use to use a bicycle maybe won't even think about using it. I have a friend of mine who is studying here and he didn't bought a bicycle... It's, it's worse, because he is living in the student hotel...

N: Yeah.

A: So he has free bicycles, because he is paying for this, but he say "I just bicycle when I was 8, I never use it, I just take the bus" and I don't know why because it's more practical to use the bicycle because you have to wait the bus, etc... when it's raining you have to... well...

N: Yeah, and you have to pay for the bus.

A: Yeah, and he has to pay. And he is already paying for the bicycles. I don't know, I don't understand this kind of... yeah, way of thinking, but I think yeah, the biggest obstacle is how you used to, to go from A point to B point, I think...

N: Okay... and what about the motivations, what do you think are the main motivations for people to start cycling?

A: Hmm... I would say equally the costs. Because once you have bought your bicycle, you have nearly zero extra cost, except if you hmm... break your tire, or change your brakes, but... that's not so much hm... maybe the costs and... yeah the simplicity, because you just have to go on it and... bike... so that's quite easy.

N: Yeah. Hmm... and do you think that the culture environment has more or less influence than the infrastructure... such as the cycle paths, or...

A: More than the...

N: Yeah, if seeing people cycling influence more or less than having a cycle path, for instance...

A: Oh, hmm... I think it's a very tricky question for the Netherlands, because both the culture and the infrastructures are just, I think unique in the world... to have a huge trad... not tradition because I don't know if they use a bicycle for one hundred years but, they have a use... a huge hmm... utilization, use of bicycles, and it's cultural for everyone, when you think about the Netherlands, that's one of the things you are thinking about "oh yes they use bicycles" and the second the infrastructure they are just yeah, unique too, very good. For the Netherlands I don't know... hm... but I would say hm... in the more practical way the infrastructure.

N: Okay... we are almost finishing... what do you think that could be done to motivate the international students to keep cycling after they leave Groningen? Because well, here is really easy to cycle, and... is there something that could be done for them to continue this pattern back in their home country or like you, going to somewhere else even in the Netherlands?

A: Good question, hm... hm... I don't know what they could do hm... if you are in Europe... no, that's way too expensive... hm... yeah, I was thinking about allowing you to go back to your country with your bicycle but you would have to pay for the transportation and would be too much... hm... I don't know, maybe you create... yeah, I would say something like that, maybe you create like facebook groups or something, the Europe and the bicycle, I don't know, something to keep the link with the people using bikes... that's the only idea I have... (both laugh)

N: Okay

A: I don't know

N: It's still an idea! (laugh)... And... well, do you have anything that you would like to add, that you think it's interesting for the study, and we didn't mention yet in the interview?

A: Oh, I think I talked a lot (both laugh) hmm...

N: Yeah you were very helpful.

A: Great! Hm... no, no no, I don't know... I think yeah, I think I said everything I had to say.

N: Yeah?

A: Uhum.

N: Well, okay then. Thank you very much for your participation!

A: You're welcome. I'm glad to help you, if it's good...

N: Yeah, sure, it was really nice. I will then stop the recording...

FIGURES

Survey Questions:

Figure 2. Where are you from? Please write down your home country and city.

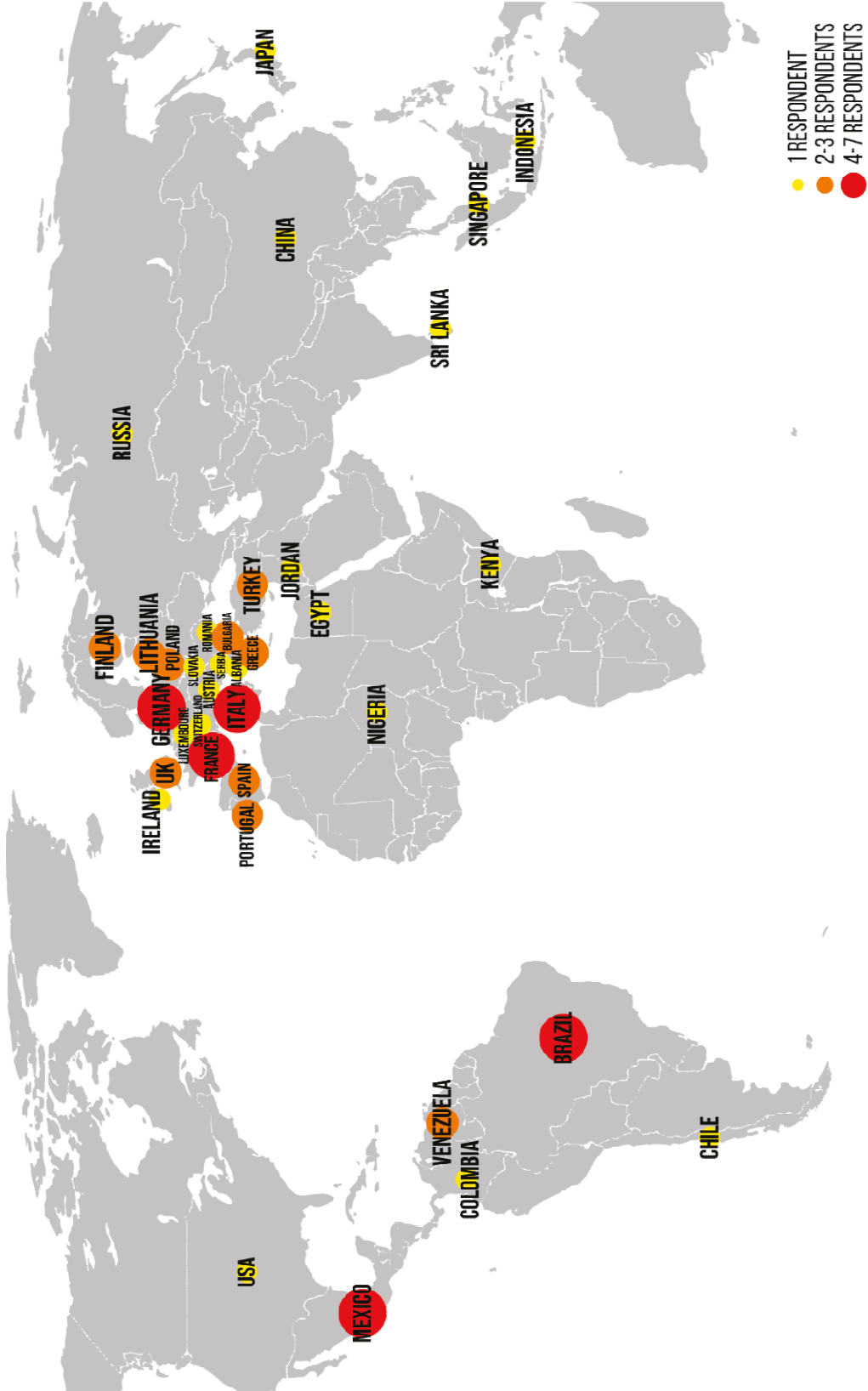




Figure 13. What is your gender?

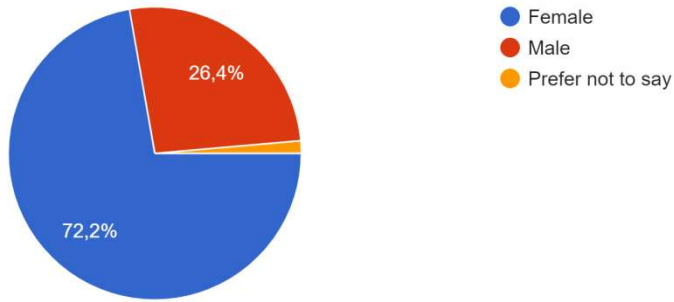


Figure 14. What is your age?

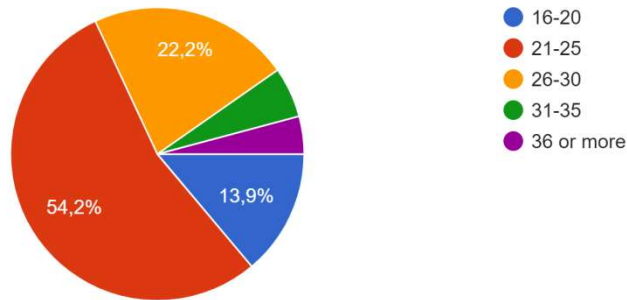


Figure 15. For how long have you been studying in Groningen?

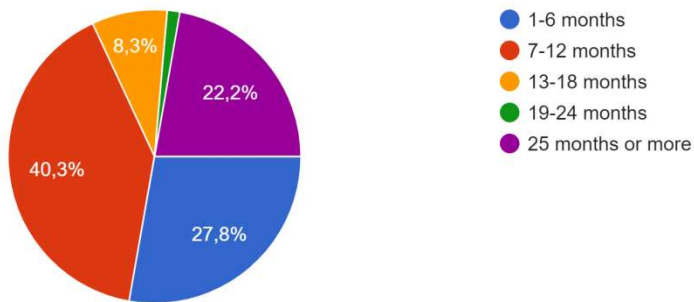
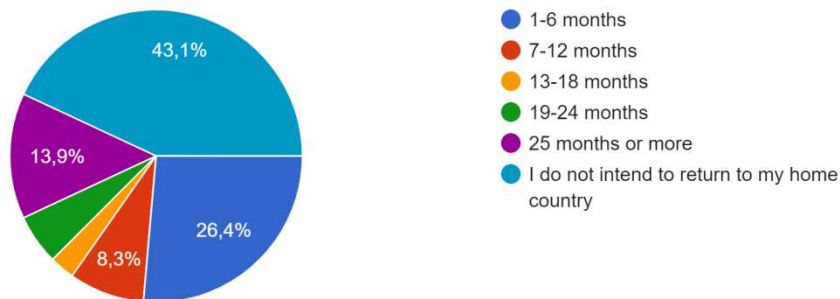
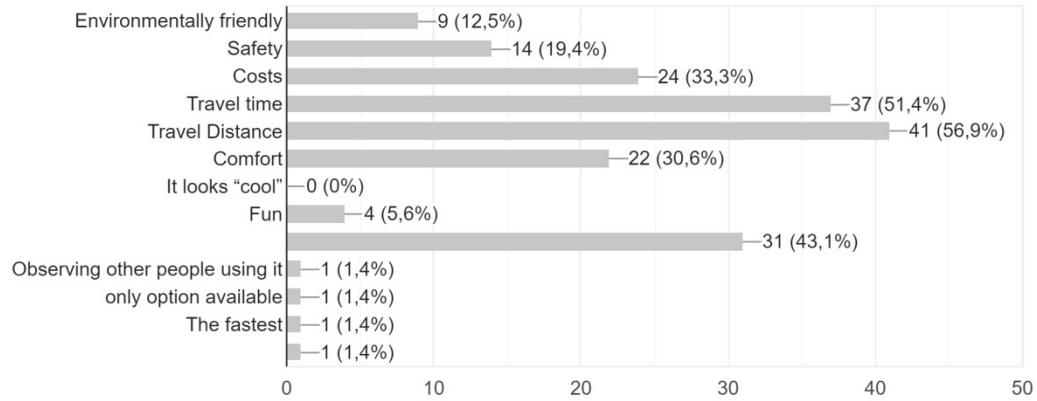


Figure 16. When are you going to return to your home country?



**Figure 17.** Why did you choose this specific mode of transport there? Please select no more than three.



**Figure 18.** Which were your motivations to start using this specific mode here? Please select no more than three.

